

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1957 OCT 25 PM 3:10

Pool Jalmat Formation Yates County Lea
Initial _____ Annual _____ Special X Date of Test 9-23/9-27-57
Company Phillips Petroleum Company Lease M. C. Woolworth Well No. 4
Unit J Sec. 33 Twp. 24 Rge. 37 Purchaser El Paso Natural Gas Company
Casing 7" Wt. 24 I.D. 6.336 Set at 3337 Perf. 2850 To 3135
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 2833 Perf. open ended To _____
Gas Pay: From 2850 To 3135 L 2833 xG 0.660 -GL 1870 Bar. Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: Re-2-23-55 Packer - Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps _____

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Backsucker) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						683				72
1.	4	1.250	515	4.84	64	683				24
2.	4	1.250	525	10.24	67	618				24
3.	4	1.250	535	20.70	71	575				24
4.	4	1.250	538	30.25	72	541				24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	50.56		0.9962	0.9535	1.055	489
2.	9.643	74.24		0.9933	0.9535	1.055	715
3.	9.643	106.53		0.9896	0.9535	1.054	1022
4.	9.643	129.13		0.9887	0.9535	1.054	1237
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.936 (1-e^{-s}) 0.120

Specific Gravity Separator Gas 0.660
Specific Gravity Flowing Fluid _____
P_c 696.2 P_c 484.7

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w / P _c
1.	672.2	451.9	4.86	23.62	2.83	454.7	30.0	213.2	0.3062
2.	631.2	398.4	7.10	50.41	6.05	404.4	80.3	201.1	0.2889
3.	588.2	346.0	10.15	103.02	12.36	358.4	126.3	189.3	0.3719
4.	554.2	307.1	12.29	151.04	18.12	325.2	159.5	180.3	0.2590
5.									

Absolute Potential: 2959 MCFPD; n 0.791COMPANY Phillips Petroleum CompanyADDRESS Box 2105 Hobbs, New MexicoAGENT and TITLE R. L. Tuttle, EngineerWITNESSED Smith and ByerCOMPANY El Paso Natural Gas Company

REMARKS

Repotential after frac.

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia

P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .

Phillips Petroleum Co.
 M. C. Woolworth No. 4
 J-33-24-37, Lea Co., N. M.
 9-27-57

